

CLAIMS

1. A charger comprising:
 - a housing including on an outside surface thereof a connecting portion to which a battery pack is attached by a slide of the battery pack in a predetermined direction on the connecting portion;
 - a plurality of terminals provided in the connecting portion for establishing electrical connection with the battery pack upon attachment of the battery pack to the connecting portion;
 - urging means; and
 - protective means provided on the connecting portion and capable of linear movement in the predetermined direction wherein under normal operating conditions, the protective means is urged by the urging means to a covering position in which the protective means covers the terminals, and when the battery pack is attached to the connecting portion, the protective means is adapted so as to be abutted and moved by the battery pack to a withdrawn position in which the terminals are exposed.
2. A charger in accordance with claim 1 further comprising a terminal block on which the terminals are erected and oriented in the predetermined direction, wherein the protective means is a slide cover including a top plate and a pair of side plates that extend orthogonally downwards from side edges of the top plate and are oriented in the predetermined direction, the top plate being located directly over the terminals and the side plates flanking the terminals when no battery pack is attached to the charger.
3. A charger in accordance with claim 2, wherein the urging means includes at least one coil spring interposed between the slide cover and a portion of the housing below the slide cover for urging the slide cover in the predetermined direction to the covering position.
4. A charger in accordance with claim 2 further comprising means for limiting the movement of the slide cover, the means for limiting the movement including a through-hole which is provided in the outside surface of the housing below the slide cover and elongated in the predetermined direction, the means for limiting the movement further including a stopper protruding from an under surface of the top plate into the elongated through-hole, such that the movement of the slide cover with respect to the housing is limited to the movement of the stopper within the elongated through-hole.
5. A charger in accordance with claim 4 further comprising means for slidably attaching the stopper to the housing so as to allow the slide cover to slide with respect to the housing without being detached from the housing.

6. A charger in accordance with claim 5, wherein the means for slidably attaching the stopper includes a screw which is upwardly tightened into the stopper through the elongated through-hole and a washer penetrated by the screw on the elongated through-hole.

7. A charger in accordance with claim 1 further comprising means for limiting the movement of the protective means, the means for limiting the movement including a through-hole which is provided in the outside surface of the housing below the protective means and elongated in the predetermined direction, the means for limiting the movement further including a stopper protruding from an under surface of the protective means into the elongated through-hole, such that the movement of the protective means with respect to the housing is limited to the movement of the stopper within the elongated through-hole.

8. A charger in accordance with claim 7 further comprising means for slidably attaching the stopper to the housing so as to allow the protective means to slide with respect to the housing without being detached from the housing.

9. A charger in accordance with claim 8, wherein the means for slidably attaching includes a screw which is upwardly tightened into the stopper through the elongated through-hole and a washer penetrated by the screw on the elongated through-hole.

10. A charger in accordance with claim 1 further comprising guide means provided in the connecting portion for facilitating a slide of the battery pack to bring the pack into attachment to the connecting portion.

11. A charger in accordance with claim 10, wherein the guide means includes a pair of guide rails extending in parallel with the predetermined direction, wherein the guide rails are adapted to receive the battery pack therebetween during attachment of the battery pack to the charger.

12. A charger in accordance with claim 11, wherein the terminals are located between the guide rails.

13. A charger comprising:
a connecting portion on which a battery pack is slid into attachment to the charger;
a plurality of terminals provided on the connecting portion for establishing electrical connection with the battery pack upon attachment of the battery pack to the connecting portion; and
a slide cover slidably attached to the connecting portion, the slide cover being urged to a first position, in which the slide cover snugly covers the terminals, but being abutted and linearly slid by the battery pack to a second position, in which the slide cover no longer covers

the terminals, during the attachment of the battery pack to the connecting portion.